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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,264	04/02/2001	Steve J. Shattil		1606

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Steve J. Shattil
4980 Meredith Way # 201
Boulder, CO 80303

EXAMINER

DEPPE, BETSY LEE

ART UNIT PAPER NUMBER

2637

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/824,264	SHATTIL, STEVE J.	
	Examiner	Art Unit	
	Betsy L. Deppe	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14, 15, 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-13, 16 and 17 in the reply filed on January 19, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The applicant is reminded to cancel the non-elected claims.

Drawings

2. The drawings are objected to because:
- a. the elements in the figures should be labeled so that one viewing the drawings may understand the subject matter of the claimed invention without referring to the detailed description;
 - b. the Examiner suggests including Θ_1 and d (as described on page 9) in Figure 4A in order to facilitate understanding of the figure;
 - c. Figure 10A does not accurately reflect the description on page 18, lines 19-23. Since the delay element delays the wideband signal from source 92, element 96 should be shown with an input from source 92 and an output to 94. Furthermore, the specification does not describe the connection between the output of 94 and the input of 96; and
 - d. in Figure 14C, it appears that "into" should be "onto" for clarity.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: on pages 18-19, reference number "96" is referred to as a "delay element" with respect to Figure 10A and as a "diversity encoder" with respect to Figures 10B-10E. If the elements shown in Figures 10A-10E are identical in function, the specification should use the same name/label in order to avoid confusion. Appropriate correction is required.

Claim Objections

4. The claims are objected to because of the following informalities:
- in claim 7, line 2, "into" should be "onto" for improved readability;
- in claim 8, line 2, "the wideband signal" should be "the **information-bearing** wideband signal" (see line 2);
- in claim 13, line 3, "into" should be "onto" for improved readability;
- in claim 16, line 7, the Examiner suggests changing "for generating" to "to generate" for clarification; and
- in claim 17, line 7, the Examiner suggests changing "for generating" to "to generate" for clarification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:
- The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
6. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 8-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 8, the step of generating at least one decoding signal appears to be inconsistent with a method for producing diversity-

encoded spread-spectrum signals. Usually, the decoding signal is generated in the receiver whereas a transmitter would implement a method for producing diversity-encoded spread-spectrum signals. Therefore, claim 8 and its dependent claims are vague and indefinite.

Furthermore, claim 12 recites that the decoding signal is modulated onto a carrier signal. A decoding signal is usually in a receiver and modulation onto a carrier signal occurs in a transmitter. Therefore, claim 12 is also vague and indefinite.

8. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 10 recites that the step of diversity encoding is performed by a receiver. Since the transmitter usually performs the encoding, it is unclear how the receiver performs the diversity encoding.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-4, 6-11, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Cafarella et al. (US Patent No. 5,809,060).

11. With regard to claims 1, 2, 4 and 7, Figure 8 of Cafarella et al. discloses the claimed invention including generating at least one wideband signal that is a noise signal (69 and 70) and coupling (via 72) an information signal (output of 66) with the wideband signal (via 72). (See column 18, line 32-50) Figure 1 of Cafarella et al. shows duplicating the spread spectrum signal (26 and 28) and diversity-encoding at least one of the spread spectrum signals (26) wherein the diversity encoding is performed by the communication channel (as recited in claim 4) and the spread spectrum signal is coupled on the communication channel (as recited in claim 7).

12. With regard to claim 3, Figure 8 of Cafarella et al. discloses the claimed invention including modulating the wideband signal with the information signal. (72 and 74)

13. With regard to claim 6, Figure 8 of Cafarella et al. discloses the claimed invention including modulating the spread spectrum signals onto a carrier signal. It is inherent/implicit that a signal is modulated onto a carrier signal for transmission in a wireless system.

14. With regard to claims 8 and 10, Figure 8 of Cafarella et al. discloses the claimed invention including generating at least one information-bearing wideband signal (output of 72). Figure 4 shows the step of generating at least one decoding signal (49). Figure 1 shows diversity encoding the information-bearing wideband signal wherein the step of diversity-encoding is performed by a communication channel.

15. With regard to claim 9, Figure 8 of Cafarella et al. discloses the claimed invention including a noise signal in the wideband signal. Generator 70 generates a noise signal which is combined with data to produce the information-bearing wideband signal.

16. With regard to claim 10, Figure 1 of Cafarella et al. shows the step of diversity-encoding being performed by a communication channel.

17. Claims 1, 5, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Weekrackody (US Patent No. 5,289,499).

18. With regard to claims 1 and 5, Figure 4 of Weekrackody discloses the claimed invention including generating at least one wideband signal (12), coupling (via 10) an information signal ($b(n)$) with the wideband signal, duplicating the spread spectrum signals, and diversity encoding at least one of the spread spectrum signals wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (T_1). (See column 6, line 48 - column 7, line 1)

19. With regard to claims 8 and 11, Figure 4 of Weekrackody discloses the claimed invention including generating at least one information-bearing wideband signal (i.e. output of 10) and diversity encoding the information-bearing wideband signal wherein the step of diversity encoding includes transmitting from a plurality of spatially separated transmitters (T_1). Figure 5 of Weekrackody discloses generating at least one decoding signal (63).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weekrackody in view of Dybdal et al. (US Patent No. 5,781,845). Figure 4 of Weekrackody discloses the claimed invention including a wideband signal generator (12; an information signal generator (i.e. it is inherent that this is present in order to provide information signal $b(n)$); a modulator (10) for combining the information signal ($b(n)$) with the wideband signal; and a diversity processor (15, 17, 20, 25) for duplicating the spread spectrum signal. (See column 6, line 48 - column 8, line 27) However, Weekrackody does not teach adjusting the diversity parameter of the spread spectrum signals.

Dybdal et al. discloses a transmitter comprised of an antenna array with adaptive weighting circuitry. (See Figure 1 and column 6, lines 1-16) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use adaptive weighting (as taught by Dybdal et al.) with signal generators 17 in Weekrackody (thereby adjusting the diversity parameter of the signals) in order to reduce multipath distortions.

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betsy L. Deppe
Primary Examiner
Art Unit 2637